

**CLAIMS**

1. A high voltage transformer, having  
high voltage elements (1, 8) arranged so that a 0 Volt level or ground level (2) is situated in a middle zone of a secondary high voltage winding (1);  
a negative potential progressively increasing from said ground level (2) towards a first end (3);  
a positive potential progressively increasing from said ground level (2) towards a second end (4);  
so as to establish equipotential voltages in elements at a same distance from the ground level (2), the high voltage transformer being characterized in that it comprises  
low voltage elements (5) on a first branch of a magnetic core (7);  
secondary high voltage winding (1) on a second branch of the magnetic core (7).
2. A high voltage transformer according to claim 1, characterized in that low voltage elements (5) are separated from the high voltage elements (1, 8) by insulating means (6).
3. A high voltage transformer according to claim 2, characterized in that the insulating means separating the high voltage elements (1, 8) from low voltage (5) elements comprises an insulating partition (6).
4. A high voltage transformer according to any of claims 1-3, characterized in that the progressive increase in voltage towards the ends (3, 4) is linear.
5. A piece of electronic equipment characterized in that it comprises a high voltage transformer according to any of claims 1-3.

6. A piece of electronic equipment characterized in that it comprises a high voltage transformer according to claim 4.

7. A radiogenic vessel (9) characterized in that it comprises

- a high voltage transformer according to any of claims 1-3;

- an X-ray tube (10)

- arranged so that a 0 Volt level or ground level is situated in a middle zone of the X-ray tube (10) in correspondence with the 0 Volt level or ground level (2) situated in a middle zone of the secondary high voltage winding (1);

- a negative potential progressively increasing from said ground level in correspondence with the first end (3);

- a positive potential progressively increasing from said ground level in correspondence with the second end (4);

so as to establish equipotential voltages in elements at a same distance from the ground level.

8. A radiogenic vessel (9) characterized in that it comprises

- a high voltage transformer according to claim 4;

- an X-ray tube (10)

- arranged so that a 0 Volt level or ground level is situated in a middle zone of the X-ray tube (10) in correspondence with the 0 Volt level or ground level (2) situated in a middle zone of the secondary high voltage winding (1);

- a negative potential progressively increasing from said ground level in correspondence with the first end (3);

a positive potential progressively increasing from  
said ground level in correspondence with the second  
end (4);  
so as to establish equipotential voltages in elements at a  
same distance from the ground level.